

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

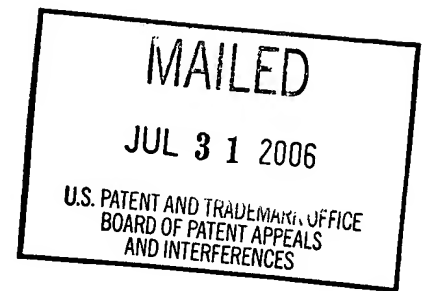
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte DON ELROD

Appeal No. 2006-1022  
Application No. 10/084,829

ON BRIEF



Before GARRIS, KRATZ, and FRANKLIN, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal which involves claims 7-19, 21-26, 28-30 and 34-53.

The subject matter on appeal relates to a fabric, which has antimicrobial or chemical detoxification properties, produced in accordance with a method comprising the steps of (1) treating a fabric with ozone to form peroxide groups, (2) decomposing the peroxide groups with an iron catalyst to form oxygen radicals, and (3) grafting a polymerizable monomer to the oxygen radicals on the fabric surface, wherein the monomer or a derivative thereof provides the

aforementioned antimicrobial or chemical detoxification properties. The monomer may be a carboxylic acid which is ultimately oxidized to a regenerable percarboxylic acid that provides the antimicrobial or detoxifying properties. This appealed subject matter is adequately represented by independent claims 23 and 34 which read as follows:

23. An antimicrobial fabric produced in accordance with a method comprising the steps of:

treating a fabric with ozone to form peroxide groups on the fabric;

decomposing the peroxide groups with an iron catalyst to form oxygen radicals; and

grafting a polymerizable monomer to the oxygen radicals on the fabric surface, wherein the grafted fabric comprises a disinfectant that is the polymerizable monomer or a derivative of the polymerizable monomer.

34. A protective fabric for protection against chemicals produced in accordance with a method comprising the steps of:

treating a fabric with ozone to form peroxide groups on the fabric;

decomposing the peroxide groups with an iron catalyst to form oxygen radicals;

grafting a carboxylic acid to the oxygen radicals on the fabric surface; and

oxidizing the carboxylic acid to a regenerable percarboxylic acid, wherein the percarboxylic acid is covalently bonded to the fabric to provide the protection against chemicals.

The reference set forth below is relied upon by the examiner as evidence of anticipation and obviousness.

Calcaterra et al. (Calcaterra)

4,810,567

Mar. 7, 1989

All of the appealed claims<sup>1</sup> are rejected under 35 U.S.C. § 102(b) as being anticipated by or under 35 U.S.C. § 103(a) as being unpatentable over Calcaterra.

We refer to the Brief (i.e., the Supplemental Brief filed September 12, 2005) and the Reply Brief (also filed September 12, 2005) and to the Answer for a complete discussion of the opposing viewpoints expressed by the appellant and by the examiner concerning the above-noted rejections.

### OPINION

For the reasons set forth in the Answer and below, we will sustain each of these rejections.

The appellant's primary and repeatedly advanced argument is expressed on page 8 of the Supplemental Brief as follows:

Appellant claims a fabric having a *monomer* grafted to the fabric. Calcaterra discloses a fabric having a *copolymer* grafted to the fabric. Since a copolymer is not the same as a monomer, Calcaterra fails to disclose each and every limitation claimed by Appellant in independent claims 23 and 34.

Like the examiner, we find that Calcaterra discloses forming an antimicrobial fabric via a process which includes grafting a monomer onto the fabric (e.g., see lines 13-30 in column 2 and the paragraph bridging columns 6 and 7). Contrary to the appellant's afore-quoted argument, this process step corresponds to the grafting process language of product-by-process claims 23 and 34 (which are the only independent claims on appeal). We appreciate that Calcaterra's ultimate product is in the form of a graft copolymer. However, this fact does not render the

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<sup>1</sup> Notwithstanding a typographical error in listing the rejected claims on page 3 of the Answer, it is apparent that all claims on appeal have been rejected over the Calcaterra reference (e.g., see page 1 of the Supplemental Brief filed September 12, 2005).

examiner's § 102 and § 103 rejections improper since a graft copolymer product is not excluded by the aforementioned claims. This latter point is most clearly evinced by claim 14 which depends from independent claim 23 and which expressly recites "providing a polymerizable comonomer along with the monomer to form a copolymer" (emphasis added).

The appellant further argues that "Calcaterra does not disclose a fabric having sufficient peracid to detoxify pesticides as claimed by Appellant in claims 21 and 38" (Supplemental Brief, page 8). In this regard, the appellant acknowledges the examiner's position that the reference teaches a chain terminator in the form of percarboxylic acid (e.g., see lines 34-53 in column 8). Nevertheless, it is the appellant's contention that "the small amount of -OOH used as a chain terminator of the copolymer attached to the fabric of Calcaterra is not sufficient to provide effective biocidal activity or effective chemical weapon or pesticide detoxification" (Supplemental Brief, page 9).

As properly explained by the examiner in her answer, the deficiency of the appellant's contention is that the claims under consideration do not contain any requirements as to the amount of percarboxylic acid which must be present or the amount of antimicrobial or detoxification activity which must be exhibited by the percarboxylic acid. That is, the claims encompass a fabric having the smallest possible amount of percarboxylic acid and antimicrobial or detoxification activity exhibited thereby. Under these circumstances, it is reasonable and appropriate for the Patent and Trademark Office to require that the appellant prove that the percarboxylic acid of Calcaterra's fabric does not necessarily and inherently possess the antimicrobial and detoxification properties required by the claims under review. See In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977) and Ex parte Levy, 17 USPQ2d

1461, 1463-64 (Bd. Pat. App. & Inter. 1990) No such proof has been advanced on the record of this appeal.

Finally, the appellant argues that “the –OOH terminator disclosed by Calcaterra does not form a peracid” (Supplemental Reply Brief, paragraph bridging pages 5-6). According to the appellant, “a peracid must have (1) the –OOH group (2) bonded to a carbon and (3) an oxygen bonded with a double bond to the same carbon” (id.). Though not expressly stated, the premise of this argument is that patentee’s –OOH terminator does not include an oxygen bonded with a double bond to the same carbon as the –OOH group and therefore is not a peracid. This argument is unpersuasive because its aforementioned premise is incorrect. The accepted definition of a peracid does not require the presence of such a double bond oxygen (e.g., see Hawley’s Condensed Chemical Dictionary, 14<sup>th</sup> Edition, page 847).

For the reasons set forth above and in the answer, it is our ultimate determination that the examiner has established a prima facie case of unpatentability which the appellant has failed to successfully rebut with argument or evidence to the contrary. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). We hereby sustain, therefore, the examiner’s § 102 and § 103 rejections of all appealed claims based on Calcaterra.

The decision of the examiner is affirmed.

Appeal No. 2006-1022  
Application No. 10/084,829

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(iv)(effective Sept. 13, 2004).

AFFIRMED

  
Bradley R. Garriss  
Administrative Patent Judge

  
Peter F. Kratz  
Administrative Patent Judge

Beverly A. Franklin  
Beverly A. Franklin  
Administrative Patent Judge

# BOARD OF PATENT APPEALS AND INTERFERENCES

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